What is claimed is:

1. A SOI-based MEMS device comprising:
a base layer;
a device layer;
an insulator layer between the base layer and the device layer; and
a deposited layer having a portion that is spaced from the device layer;
the device layer being between the insulator layer and the deposited layer.

2. The MEMS device as defined by claim 1 further including an anchor extending from the deposited layer to contact the device layer.

3. The MEMS device as defined by claim 1 wherein the device layer includes circuitry.

4. The MEMS device as defined by claim 4 wherein the deposited layer includes a material having a deposition temperature, the circuitry being capable of operating after being subjected to the deposition temperature.

5. The MEMS device as defined by claim 1 wherein the deposited layer includes germanium.

6. The MEMS device as defined by claim 1 wherein an air space separates the device layer from the deposited layer.

7. The MEMS device as defined by claim 6 wherein the device layer has a top surface with given material formed thereon, the air space separating the given material from the deposited layer.

8. A MEMS inertial sensor comprising:

a single crystal silicon layer having a top surface, the single crystal silicon layer also having sensing structure; and

a deposited additional layer adjacent to the top surface of the single crystal silicon layer, the deposited additional layer having a portion that is spaced from the top surface.

9. The MEMS inertial sensor as defined by claim 8 wherein the deposited additional layer has a portion that is contacts the top surface.

10. The MEMS inertial sensor as defined by claim 8 wherein the single crystal silicon layer is a part of a silicon-on-insulator wafer, the sensor further including a base layer and an insulator layer separating the base layer and the single crystal silicon layer.

11. The MEMS inertial sensor as defined by claim 8 wherein the single crystal silicon layer is a bulk silicon wafer.

12. The MEMS inertial sensor as defined by claim 8 wherein at least an air space separates the top surface from the deposited additional layer.

13. The MEMS inertial sensor as defined by claim 8 wherein the sensing structure includes a movable member spaced from the deposited additional layer by an air space.

14. The MEMS inertial sensor as defined by claim 8 wherein the deposited additional layer forms an electrode capable of capacitively coupling with at least a portion of the single crystal silicon layer.

15. A method of forming an SOI-based MEMS device, the method comprising:

providing a SOI-based MEMS wafer having a top face;

depositing a sacrificial layer on the top face; and

depositing an additional MEMS layer on the sacrificial layer.

16. The method as defined by claim 15 wherein the additional MEMS layer is comprised of a material having a deposition temperature that is less than about 450 C.

17. The method as defined by claim 15 further comprising removing at least a portion of the sacrificial layer.

18. The method as defined by claim 15 wherein the additional MEMS layer forms a cap for at least a portion of the top face of the SOI-based MEMS wafer.

19. The method as defined by claim 15 further comprising applying surface micromachining processes to the additional MEMS layer.

20. A method of forming a MEMS inertial sensor, the method comprising:

providing a single crystal wafer having a top face;

depositing a sacrificial layer on the top face; and

depositing an additional MEMS layer on the sacrificial layer.

21. The method as defined by claim 20 further comprising removing at least a portion of the sacrificial layer.

22. The method as defined by claim 20 further comprising applying surface micromachining processes to the additional MEMS layer.